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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,847	04/13/2004	Young-kook Kim	101-1033	3206

38209 7590 06/28/2007  
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EXAMINER
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SALOMON, PHENUEL S

ART UNIT	PAPER NUMBER
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2178

MAIL DATE	DELIVERY MODE
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06/28/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/822,847

Applicant(s)

KIM, YOUNG-KOOK

Examiner

Phenuel S. Salomon

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/06 and 4/04</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

1. This action is in response to the original filing of April 13, 2004. Claims 1-36 are pending and have been considered below.

### ***Claim Objections***

3. Claim 22 is objected to because of the following informality: the examiner notes a typographical error: "...a button discrimination unit the discriminate which button..." (line 2). Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 14-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 14-15 are method that refers back to Claim 10, which is an apparatus claim. The Office considers any claim that refers to another claim as dependent thereon, i.e. a dependent claim. Since Claim 10 is an apparatus comprising three steps and Claims 14-15 make it unclear as to what statutory subject matter is being claimed.

See Ex parte Lyell, 17 USPQ2d 1548 (Bd. Pat. App. & Inter. 1990)

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 (e) that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

7. Claims 1-5, 11-13, 16 and 25-34 are rejected under 35 U.S.C. 102(e) as being unpatentable over Bald et al. (US 6,744,259).

Claim 1: Bald discloses a method of indicating functions of buttons in an image display apparatus, the method comprising:

generating an image indicating functions assigned to the buttons (fig. 1, items 1-4); and  
displaying the image on the image display apparatus (fig. 1, items 1-4).

Claim 2: Bald discloses a method as in claim 1 above, wherein the image is text indicating the functions assigned to the buttons (fig. 1, item 3).

Claim 3: Bald discloses the method as in claim 2 above, wherein the language of the text can be selected by a user (col. 5, lines 36-44), [language could have been one of the options, since it is a technical equipment which can be used worldwide].

Claim 4: Bald discloses a method as in claim 2 above, Bald further discloses the image also includes symbols indicating at least one function assigned to at least one respective button (fig.1, item 1).

Claim 5: Bald discloses a method as in claim 1 above, wherein the image is displayed at a position on the image display apparatus close to the buttons (fig. 1, item 2).

Claim 11: Bald discloses a menu processing method of an image display apparatus having and image display unit and buttons, the method comprising:

- displaying a menu including selectable items on the image display unit (fig.3, items 1-4);
- generating an image indicating functions of the buttons to search for and select the selectable items (fig. 3, item 3);
- setting zones to display the image on the image display unit (fig. 3, item 3);
- displaying the image on the set zones (fig. 3, item 4); and
- recognizing whether a selectable item is selected according to whether a corresponding button is pushed (col. 5, lines 39-43).

Claim 12: Bald discloses the method as in claim 11 above, wherein the zones for the image indicating functions of the buttons is displayed at a position on the image display apparatus close to the buttons (fig. 3, item 4).

Claim 13: Bald discloses the method as in claim 11 above, wherein the image is text indicating the functions of the buttons (fig. 3, item 4).

Claim 16: Bald discloses a method of indicating functions of buttons on an image display apparatus having an image display portion, the method comprising:

generating an image including plural zones, each zone indicating a function of the image display apparatus and corresponding in a close relationship with a respective button in which a respective function is assigned (fig 1, items 1-4).

Claim 25: Bald discloses a method of indicating a function of a button in an image display apparatus having a screen and a frame with the button, the method comprising: generating an image to indicate the function of the button to be displayed on the screen of the image display apparatus (col. 5, lines 36-44).

Claim 26: Bald discloses the method as in claim 25 above, wherein the function of a button comprises first and second sub-functions, and the generating of the image comprises selectively generating one of the first and second sub-functions according to activation of the button (col. 5, lines 42-44).

Claim 27: Bald discloses a method of indicating functions of buttons in an image display apparatus having a screen and a frame with the buttons, the method comprising:

generating one of first functions of a first button and one of second functions of a second button to be displayed on the screen (col. 5, lines 36-42).

Claim 28: Bald discloses the method as in claim 27 above, wherein each of the first functions and the second functions comprises one or more characters, and the generating of the first functions comprises displaying the characters in a direction in which the first and second buttons are arranged on the frame (col. 5, lines 36-44).

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Claim 29: Bald discloses the method as in claim 27 above, wherein each of the first functions and the second functions comprises one or more characters, and the generating of the one of the first functions comprises displaying the characters in a direction having an angle with an arrangement of the first and second buttons (col. 5, lines 36-44).

Claim 30: Bald discloses the method as in claim 27 above, wherein the generating the one of the first functions comprises simultaneously generating each set of the first and second functions according to activation of one of the first and second buttons (col. 5, lines 36-44).

Claim 31. Bald discloses the method as in claim 27 above, wherein the generating of the one of the first functions comprises displaying the one of the first functions and the one of the second functions on corresponding zones of the screen (col. 5, lines 36-44).

Claim 32: Bald discloses the method as in claim 27 above, further comprising: changing one of the first functions to another function corresponding to the first button to be displayed on the screen (col. 5, lines 42-44).

Claim 33: Bald discloses the method as in claim 27 above, wherein at least one of the first functions and the second functions is programmable (col. 4, lines 27-33).

Claim 34: Bald discloses the method as in claim 27 above, wherein the first functions and the second functions comprises at least one of menu, select, +, -, symbols. Arrow-up bold. or , a format of a signal source, and one of languages (fig. 1, items 1-4).

*Claim Rejections - 35 USC § 103*

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 7-10 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Badger (US 5,973,664) in view of Bald (US 6,744,259).

Claim 7: Badger discloses an image display apparatus comprising:

an image display unit (fig. 1, item 100a);

a graphics processing unit (video hardware) which supplies images displayed by the image display unit (col. 3, lines 49-51), but does not explicitly disclose

a controller which sets display parameters of the image display apparatus, has buttons for item selection, and performs operations assigned to the buttons, wherein the image display unit has zones to display an image indicating functions assigned to the buttons, and the controller generates image information to be displayed in the zones and supplies the image information to the graphics processing unit. However, Bald discloses a display screen controller that checks parameters associated with softkeys and displays functions assigned to the keys (col. 5, lines 46-62), (col. 5, lines 36-44) and (fig. 1, items 1-4). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have included Bald's controller in Badger. One would have been motivated to do so in order to accommodate the user with a wide variety of menu selections.



Claim 8: Badger discloses an apparatus as in claim 7 above, but does not explicitly disclose the zones to display an image indicating functions assigned the buttons are displayed at a position on the image display apparatus close to the buttons. However, Bald discloses softkeys with assigned functions displayed on the apparatus close to the keys (fig. 1, items 1-4). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include Bald's feature in Badger. One would have been motivated to do so in order to accommodate the user with menu manipulation and a wide variety of menu selections.

Claim 9: Badger discloses an apparatus as in claim 7 above, but does not explicitly disclose the image indicating functions assigned the buttons is text indicating the functions assigned to the buttons. However, Bald discloses softkeys with assigned text functions displayed on the apparatus (fig. 1, items 1-4). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include Bald's text-indicating function in Badger. One would have been motivated to do so in order to accommodate the user with menu functions selection.

Claim 10: Badger discloses an apparatus as in claim 7 above, Badger further discloses a pivot detector which detects a pivot angle of the image display apparatus and supplies pivot angle data to the graphics processing unit, wherein the graphics processing unit displays the image in the zones rotated according to the pivot angle (col. 5, lines 26-31).

Claim 14: Badger discloses the method as in claim 10 above, but does not explicitly disclose when the buttons are pushed, the corresponding item selected becomes inverted to indicate that the item has been selected. However, Bald discloses flag indication that a function has

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been selected (col. 5, lines 46-55). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include this feature of Bald in Badger. One would have been motivated to do so in order to assure the user that a selection has been made.

Claim 15 Badger discloses an apparatus as in claim 10 above, but does not explicitly disclose one of the selectable items changes the language of the function indicated. However, Bald discloses use of a scrolling display permits selection from among a greater number of options than there are softkeys (col. 5, lines 36-44) [language could have been one of the options, since it is a technical equipment which can be used worldwide]. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include Bald's language option in Badger. One would have been motivated to do so in order to accommodate the user with different languages other than the inventor's.

10. Claims 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bald (US 6,744,259) in view of Ruberry et al.(US 6,356,287 B1).

Claim 17: Bald discloses the method as in claim 16 above, but does not explicitly disclose moving the zones to correspond with a second set of buttons on the image display apparatus when the image display apparatus is rotated. However, Ruberry discloses a new orientation setting where the device repaint the displayed text using the new orientation (col. 12, lines 42-51). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include this feature in Bald. One would have been motivated to do so in order to help the user by taking advantage of all the buttons functionality even in a rotated position.

11. Claims 6, 18-23, and 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bald (US 6,744,259) in view of Badger (US 5,973,664).

Claim 6: Bald discloses a method as in claim 1 above, but does not explicitly disclose the operation of the displaying the image on the image display apparatus further comprises:

detecting a pivot angle of the image display apparatus; and

displaying the image rotated according to the pivot angle. However, Badger discloses a sensor, which determines the current physical orientation and signal the operating system to change the orientation mode to compensate for the rotation (col. 5, lines 26-31). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include pivot angle detection in Bald. One would have been motivated to do so in order to accommodate the user with different orientation modes.

Claim 18: Bald discloses the method as in claim 16 above, but does not explicitly disclose rotating the zones when the image display apparatus is rotated such that the zones indicate the respective functions horizontally while corresponding with the buttons. However, Badger discloses a sensor, which determines the current physical orientation and signal the operating system to change the orientation mode to compensate for the rotation (col. 5, lines 26-31). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include zones rotating in Bald. One would have been motivated to do so in order to accommodate the user with different orientation modes.

Claim 19: Bald discloses an image display apparatus having buttons to select items of a display, comprising:

an image display unit including zones to display an image indicating functions assigned to the buttons; (fig. 1, items 1-4)

a controller to set display parameters of the image display apparatus, to perform operations assigned to the buttons, to generate image information to be displayed in the zones and to supply the image information to the graphics processing unit (col. 5, lines 46-62), (col. 5, lines 36-44) and (fig. 1, items 1-4), but does not explicitly disclose

a graphics processing unit to supply images displayed by the image display unit.

However, Badger discloses video hardware that uses image information in memory to generate display signal (col. 3, lines 49-51). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include graphics processing in Badger. One would have been motivated to do so in order to speed up the display process.

Claim 20: Bald discloses the image display apparatus as in claim 19 above, Bald further discloses the zones are in a close corresponding relationship with the respective button (fig. 3, item 3).

Claim 21: Bald discloses the image display apparatus as in claim 19 above, but does not explicitly disclose the functions can be displayed in several different languages. However, Bald discloses use of a scrolling display permits selection from among a greater number of options than there are softkeys (col. 5, lines 36-44) [language could have been one of the options, since it is a technical equipment which can be used worldwide]. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include

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language option in Badger. One would have been motivated to do so in order to make the apparatus much more adaptable to accommodate the user with different languages other than the inventor's.

Claim 22: Bald discloses the image display apparatus as in claim 19 above, comprising:

a button discrimination unit the discriminate which button is pushed (col. 5, lines 46-50);  
but does not explicitly disclose

a pivot detector to detect a pivot angle of the image display unit and to provide the pivot angle detected to the graphics processing unit such that the graphics processing unit supplies an image to the image display unit at a same pivot angle as the image display unit. However, Badger discloses a sensor, which determines the current physical orientation and signal the operating system to change the orientation mode to compensate for the rotation (col. 5, lines 26-31). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include pivot detector in Bald. One would have been motivated to do so in order to accommodate the user with different orientation modes.

Claim 23: Bald discloses the image display apparatus as in claim 19 above, Bald further discloses the image is displayed when any one of the buttons is pushed (col. 5, lines 51-62).

Claim 35: Bald discloses an image display apparatus having a screen and a frame with at least one button, comprising:

a controller to set display parameters of the image display apparatus, to perform the at least one function, to generate the at least one function to be displayed on the screen and to

supply the at least one function to the graphics processing unit (col. 5, lines 46-62), (col. 5, lines 36-44) and (fig. 1, items 1-4), but does not explicitly disclose

a graphics processing unit to process at least one function of the respective at least one button to be displayed on the screen. However, Badger discloses video hardware that uses image information in memory to generate display signal (col. 3, lines 49-51). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include graphics processing in Badger. One would have been motivated to do so in order to speed up the display process.

Claim 36: Bald discloses the image display apparatus as in claim 35 above, Bald further discloses the at least one function of the respective at least one button comprises first and second sub-functions, and the generating of the first and second sub-functions comprises selectively generating one of first and second sub-functions according to activation of the respective button (col. 36-44).

12. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bald (US 6,744,259) in view of Badger (US 5,973,664) and in further view of Ruberry et al. (US 6,356,287 B1).

Claim 24: Bald and Badger disclose the image display apparatus as in claim 19 above, but do not explicitly disclose a second set of buttons, wherein when the image display unit is pivoted, the zones become in close corresponding relationship with the second set of buttons. However, Ruberry discloses a new orientation setting where the device repaints the displayed text using the new orientation (col. 12, lines 37-51). Therefore, it would have been obvious to one having

ordinary skill in the art at the time the invention was made to include this feature in Bald. One would have been motivated to do so in order to help the user by taking advantage of all the buttons functionality even in a rotated position.

### ***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Kim (US 6,346,972 B1) discloses video display apparatus with on-screen display pivoting function.

b. Barrus et al. (US 7,002,604 B1) discloses screen rotation.

c. Tang et al. (US 6,765,577 B1) discloses apparatus and method for rotating on-screen display fonts.

d. Kimura (US 7,167,729 B1) discloses portable electronic apparatus.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phenuel S. Salomon whose telephone number is (571) 270-1699. The examiner can normally be reached on Mon-Fri 7:00 A.M. to 4:00 P.M.(Alternate Friday Off) EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Hong can be reached on (571) 272 4124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3800.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PSS  
6/13/2007

  
Stephen Hong  
Supervisory Primary Examiner